REMARKS

STATUS OF THE CLAIMS

Applicants' representative appreciates the helpful discussions with both Examiner DeCloux and Examiner Nolan during the various telephone discussions with Applicants' representative leading up to the preparation of this response.

Claims 54-60 and 62-64 are under examination. Claims 54, 56, 59 and 60 were canceled without prejudice or disclaimer. Claims 55, 57, 58, 62, 63 and 64 were amended. After entrance of the amendment, claims 55, 57, 58, 61-64 are pending.

Support for antigen binding fragment can be found throughout the specification and in the claims as originally filed. In addition, support can be found on: page 28, lines 24-29 page 51, lines 14-20, and page 275, line 16 through page 276, line 6.

Claim amendments are for purposes of improved clarity or consistency of claim language unless otherwise noted. No claim amendment should be construed as an acquiescence in any ground of rejection.

Applicants use the paragraph numbering in the Office Action (Paper Number 33) in responding to the examiner's remarks.

PRELIMINARY MATTERS

2. Objection to the Sequence Disclosures

The application is objected to as not citing sequence identifiers (SEQ ID NO:s) for sequences on page 38, lines 16-18, and page 163, lines 24-25 of the specification and for containing SEQ ID NOS:1-10 on pages 254-255 that do not agree with the sequences 1-10 of the Substitute Sequence Listing. Applicants respectfully point out that these issues have previously been addressed in the amendment submitted in conjunction with the Substitute Sequence Listing on March 12, 2001. Applicants' representative had a copy of the amendment hand delivered to the Group 1600 receptionist on May 28, 2002. A copy of the March 12, 2002 Substitute Sequence Listing amendment is submitted and attached herewith for the convenience of the examiner.

3. Objections to the Drawings

Applicants' representative has submitted proposed drawing corrections.

5. **A.** Applicant was advised by the examiner that should claim 58 be found allowable, claim 59 would be objected to under 37 C.F.R. §1.75 as being a substantial duplicate thereof.

Applicants' representative canceled claim 59 without prejudice or disclaimer and solely to expedite prosecution.

B. Claims 58-59 were objected to under 37 C.F.R. §1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant was required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The examiner stated that claims 58-59 do not further limit their base claims because the recited Ka would be an inherent property of the Ig secreted by 10C5 or 4D1. This objection is stated under the assumption that these claims are interpreted as claiming the whole Ig, rather than the heavy chain.

Applicants' representative amended claim 58 to correct claim dependency and claim 59 was canceled as discussed above.

C. Claims 58-60 were objected to for the following informality: consistency as to whether the instant claims commence with "The" or "A" is required. The examiner stated a preference for using "The". Claim 58 was amended as suggested by the examiner". As discussed above, claims 59 was canceled. Claim 60 was similarly canceled without prejudice or disclaimer and solely to expedite prosecution.

REJECTIONS UNDER 35 U.S.C. §112, FIRST PARAGRAPH

7. Claim 55 was rejected under 35 U.S.C. §112, first paragraph, as allegedly lacking written description. The examiner stated that claim 55 is not supported by the specification or by the claims as originally filed. The examiner stated there is no support in the specification or claims as originally filed for the recitation "An immunoglobulin having heavy and light chain variable regions encoded by SEQ ID NO:207 and 208." The examiner was of the

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view that the claimed invention constitutes new matter. The examiner invited Applicant to point out the exact page which discloses support.

Applicants' representative respectfully brings the following pages from the Substitute Sequence Listing amendment (filed March 12, 2001) to the attention of the examiner (a copy of which is enclosed with this response): page 87, line 26.

8. Claim 57 rejected under 35 U.S.C. § 112, first paragraph, as allegedly lacking written description. Claim 57 is not supported by the specification or by the claims as originally filed. There is no support in the specification or claims as originally filed for the recitation "An immunoglobulin having heavy and light chain variable regions encoded by SEQ ID NO:207 and 208." There is no written description of the claimed invention in the specification or claims as originally filed. Thus, the claimed invention constitutes new matter. Applicant is invited to point out the exact page which discloses support.

Applicants' representative respectfully brings the following pages from the Substitute Sequence Listing (filed March 12, 2001) to the attention of the examiner (a copy of which is enclosed with this response): page 87, line 26.

9. Claims 62-64 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly lacking enablement. The examiner holds the view that while being enabling for an IgG immunoglobulin comprising CDR1, CDR2 and CDR3 encoded by SEQ ID NO:205 and CDR1, CDR2 and CDR3 encoded by SEQ ID NO:206, and for an IgG immunoglobulin comprising CDR1, CDR2 and CDR3 encoded by SEQ ID NO:207 and CDR1, CDR2 and CDR3 encoded by SEQ ID NO:208, and for an IgG immunoglobulin comprising CDR1, CDR2 and CDR3 encoded by SEQ ID NO:219 and CDR1, CDR2 and CDR3 encoded by SEQ ID NO:220, the examiner stated that the specification did not reasonably provide enablement for the broader recitation of an IgG immunoglobulin comprising an immunoglobulin that does not contain all of the recited CDR1, CDR2 and CDR3 regions of both the heavy and a light chain.

This rejection has been overcome by amendment. Applicants' representative has amended claims 64-68 for greater clarity.

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Claims 62-65 were considered indefinite in the recitation because it is not clear if each heavy chain is comprised of one, two or all three CDR regions (i.e. CDR1 and/or CDR2 and/or CDR3). The examiner pointed out that this enablement rejection applies only if claims 62-64 are interpreted as not requiring that the heavy and light chains have all three of the three CDRs recited, in the order stated. In view of the amendments to claims discussed above, this enablement rejection is not applicable and should be withdrawn.

REJECTIONS UNDER 35 U.S.C. §112, SECOND PARAGRAPH

11. Claims 54-60 and 62-64 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite.

A. The examiner stated that claims 54 and 58-60 were allegedly indefinite in their recitation in claim 54 and dependent claims 58-60, of "wherein the immunoglobulin is 10C5" because it is not clear what "10C5" means, especially since the specification discloses that 10C5 is a hybridoma.

This rejection has been rendered moot by cancellation of claim 54 without prejudice or disclaimer and solely to expedite prosecution.

B. The examiner stated that claims 56 and 58-60 were allegedly indefinite in their recitation in claim 56 and dependent claims 58-60, of "wherein the immunoglobulin is 4D1" because it is not clear what "4D1" means, especially since the specification discloses that 4D1 is a hybridoma.

C. Claim 55 is indefinite in its recitation of "An immunoglobulin having heavy and light chain variable regions encoded by SEQ ID NO:205 and 206" because it is not clear if the heavy variable region is encoded by SEQ ID NO:205 or by SEQ ID NO:206 or both, similarly it is not clear if the light variable region is encoded by SEQ ID NO:205 or by SEQ ID NO:206 or both. This rejection has been rendered moot by cancellation of claim 56 without prejudice or disclaimer and solely to expedite prosecution.

D. Claim 57 is indefinite in its recitation of "An immunoglobulin having heavy and light chain variable regions encoded by SEQ ID NO:207 and 208" because it is not clear if the heavy variable region is encoded by SEQ ID NO:207 or by SEQ ID NO:208 or both,

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similarly it is not clear if the light variable region is encoded by SEQ ID NO:207 or by SEQ ID NO:208 or both. This rejection has been rendered moot by amendment. Claim 57 has been amended to provide greater clarity.

E. Claims 62-64 are indefinite in the recitation because it is not clear if each heavy chain is comprised of one, two or all three CDR regions (i.e. CDR1 and/or CDR2 and/or CDR3). This rejection has been rendered moot by amendment to the claims. Claim 62-64 have been amended to provide greater clarity.

F. Claims 58-59 are unclear as to whether they are describing the heavy chain claimed in base claims 54 and 56, or whether they are describing the whole immunoglobulin from which the heavy chain is derived. This rejection has been rendered moot in part by amendment and in part by claim cancellation. Claim 58 has been amended to provide greater clarity. Claim 59 was canceled without prejudice or disclaimer and solely to expedite prosecution.

12. **A.** The examiner stated that claim 61 is allowable because the prior art does not teach or suggest an immunoglobulin comprising heavy and light chains variable regions as encoded by the amino acid sequences set forth in SEQ ID NO:219 and SEQ ID NO:220, respectively.

B. The examiner stated that claims 54-60 and 62-64 would be allowable if rewritten or amended to overcome the objections and the rejection(s) under 35 U.S.C. §112, first and second paragraphs, as set forth in this Office Action (Paper No. 33). Applicants' representative has amended the claims accordingly.

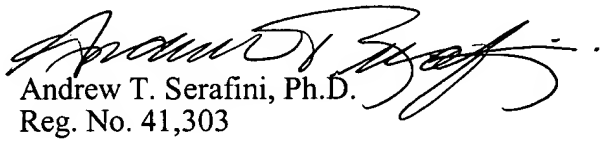
It is submitted that the examiner's rejections under 35 U.S.C. §112, second paragraph, have been overcome by amendment, claim cancellation and by Applicants' clarifications discussed above. Therefore, Applicants respectfully request that the rejections of claims 54-60 and 62-64 under 35 U.S.C. §112, second paragraph, be withdrawn.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



Andrew T. Serafini, Ph.D.
Reg. No. 41,303

Attachment: Copy of amendment submitted in conjunction with the Substitute Sequence Listing filed on March 12, 2001.

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PATENT

VERSION WITH MARKINGS TO SHOW CHANGES MADE

(For the examiner's convenience, unamended claims are shown in small font below)

55. **(AMENDED)** An immunoglobulin having heavy and light chain variable regions encoded by SEQ ID NO:205 and SEQ ID NO:206, respectively.

57. **(AMENDED)** A heavy chain variable region of an immunoglobulin having heavy and light chain variable regions encoded by SEQ ID NO:207 and SEQ ID NO:208, respectively.

58. **(AMENDED)** [An]The immunoglobulin of claim [54 or 56] 55, 57, or 61, wherein the immunoglobulin binds to human CD4 with an equilibrium association constant (K_a) of at least 10^8 M^{-1}.

61. An IgG immunoglobulin comprising heavy and light chain variable regions as encoded by the amino acid sequences set forth in SEQ ID NO:219 and SEQ ID NO:220, respectively.

62. **(AMENDED)** An immunoglobulin or antigen binding fragment thereof comprising heavy and light chain variable regions,

said heavy chain variable region comprising

(a) a complementary determining region 1 (CDR1) having the amino acid sequence encoded by bases 148-162 of SEQ ID NO:205; and

(b) a complementary determining region 2 (CDR2) having the amino acid sequence encoded by bases 205-252 of SEQ ID NO:205; and

(c) a complementary determining region 3 (CDR3) having the amino acid sequence encoded by bases 349-369 of SEQ ID NO:205; and

said light chain variable region comprising

(a) a complementary determining region 1 (CDR1) having the amino acid sequence encoded by bases 136-168 of SEQ ID NO:206; and

(b) a complementary determining region 2 (CDR2) having the amino acid sequence encoded by bases 214-234 of SEQ ID NO:206; and

(c) a complementary determining region 3 (CDR3) having the amino acid sequence encoded by bases 331-357 of SEQ ID NO:206.

63. **(AMENDED)** An immunoglobulin or antigen binding fragment thereof comprising heavy and light chain variable regions,

said heavy chain variable region comprising

(a) a complementary determining region 1 (CDR1) having the amino acid sequence encoded by bases 148-162 of SEQ ID NO:207; and

(b) a complementary determining region 2 (CDR2) having the amino acid sequence encoded by bases 205-255 of SEQ ID NO:207; and

(c) a complementary determining region 3 (CDR3) having the amino acid sequence encoded by bases 352-375 of SEQ ID NO:207; and

said light chain variable region comprising

(a) a complementary determining region 1 (CDR1) having the amino acid sequence encoded by bases 136-168 of SEQ ID NO:208; and

(b) a complementary determining region 2 (CDR2) having the amino acid sequence encoded by bases 214-234 of SEQ ID NO:208; and

(c) a complementary determining region 3 (CDR3) having the amino acid sequence encoded by bases 331-357 of SEQ ID NO:208.

64. **(AMENDED)** An immunoglobulin or antigen binding fragment thereof comprising heavy and light chain variable regions,

said heavy chain variable region comprising

(a) a complementary determining region 1 (CDR1) having the amino acid sequence encoded by bases 160-174 of SEQ ID NO:219; and

(b) a complementary determining region 2 (CDR2) having the amino acid sequence encoded by bases 217-264 of SEQ ID NO:219; and

(c) a complementary determining region 3 (CDR3) having the amino acid sequence encoded by bases 361-381 of SEQ ID NO:219; and

said light chain variable region comprising

(a) a complementary determining region 1 (CDR1) having the amino acid sequence encoded by bases 142-174 of SEQ ID NO:220; and

(b) a complementary determining region 2 (CDR2) having the amino acid sequence encoded by bases 220-240 of SEQ ID NO:220; and

(c) a complementary determining region 3 (CDR3) having the amino acid sequence encoded by bases 337-363 of SEQ ID NO:220.